

Application. No. 10/091,624  
Amendment dated August 3, 2005  
Reply to Office Action of June 13, 2005

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended): A direct oxidation electrochemical fuel cell comprising a stack of electrode and membrane elements, said direct oxidation electrochemical fuel cell producing electrical current through the oxidation of a fuel, ~~said fuel including a short chain alkanone~~ selected from the group: butanone ( $\text{CH}_3\text{CH}_2\text{COCH}_3$ ), and pentanone ( $\text{CH}_3\text{COCH}_2\text{CH}_2\text{CH}_3$ ).

Claims 2 - 9 (cancelled)

Claim 10 (original): The electrochemical fuel cell according to claim 1, wherein the fuel cell is selected from a group of fuel cells consisting of a liquid electrolyte fuel cell, a solid membrane fuel cell, an alkaline fuel cell, a phosphoric acid fuel cell, a molten carbonate fuel cell, and a solid oxide fuel cell.

Claim 11 (original): The solid membrane fuel cell according to claim 10, wherein the membrane includes any cationic and anionic membrane.

Claim 12 (original): The solid membrane fuel cell according to claim 10, wherein the membrane includes a membrane element selected from a group consisting of: non-fluorinated, partially fluorinated, and perfluorinated membranes.

Claim 13 (original): The solid membrane fuel cell according to claim 10, wherein the membrane is a proton exchange membrane.

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Claim 14 (cancelled)

Claim 15 (previously presented): A direct oxidation electrochemical fuel cell comprising a stack of electrode and membrane elements, said direct oxidation electrochemical fuel cell producing electrical current through the oxidation of a secondary alcohol comprising glyceraldehyde ( $\text{CH}_2\text{OHCHOHCOH}$ ).

Claim 16 (previously presented): The electrochemical fuel cell according to claim 15, wherein the fuel cell is selected from a group of fuel cells consisting of a liquid electrolyte fuel cell, a solid membrane fuel cell, an alkaline fuel cell, a phosphoric acid fuel cell, a molten carbonate fuel cell, and a solid oxide fuel cell.

Claim 17 (previously presented): The solid membrane fuel cell according to claim 16, wherein the membrane includes any cationic and anionic membrane.

Claim 18 (previously presented): The solid membrane fuel cell according to claim 15, wherein the membrane includes a membrane element selected from a group consisting of: non-fluorinated, partially fluorinated, and perfluorinated membranes.

Claim 19 (previously presented): The solid membrane fuel cell according to claim 15, wherein the membrane is a proton exchange membrane.